

**MEMORANDUM FOR:**

An unclassified addition to the "White Paper"  
on the matter of Soviet work on KEWs (Kinetic  
Energy Weapons).....

Date **04 NOV 1986**

(2)

## Kinetic Energy Weapons

Soviet scientists have been active in a number of areas that involve electromagnetic acceleration of projectiles since the early 1950s. Electromagnetic "guns" offer a number of advantages over conventional propulsion methods: (i) very high velocity--up to 200 km/sec; (ii) unique projectile shapes to reduce drag and enhance damage; (iii) reduced firing signature.

Soviet methods for acceleration of projectiles include both rail-guns and pulsed magnetic fields.

-- F. I. Dubovitskiy is one of the Soviet researchers on rail-gun technologies. He is at the Chernogolovka branch of the Soviet Institute of Chemical Physics, a closed facility that has been involved for many years in military explosives and propellant R&D.

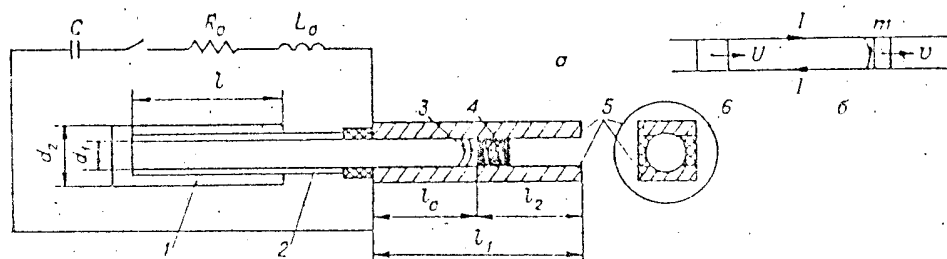


Diagram of rail-gun powered by explosive MHD-generator (a) and of operation of explosive MHD-generator on rail-gun (b).

1--explosive gas jet; 2--gas jet shell; 3--metal foil; 4--nonconducting substance to be accelerated; 5--electrodes; 6--insulator.